In the Claims:

1. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors, comprising niobium, iron, oxygen, carbon and silicon, featured by a structure comprising an α-solid zirconium solution, which comprises nickel, with the following ratio of the constituents (on a weight percent basis):

niobium	0.5 - 3.0
iron	0.005 - 0.02
oxygen	0.03 - 0.12
carbon	0.001 - 0.02
silicon	0.002 - 0.02
nickel	0.003 - 0.02
zirconium	being the balance,

and the structure of the alloy further comprises particles of the β Nb-phase which are sized below 0.1 μm and are uniformly distributed in said α-solid zirconium solution.

2. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors, according to claim 1 wherein the structure further comprises particles of intermetallics Zr-Fe-Nb.

3. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors, which comprises constituents taken with the following ratio therebetween (on a weight percent basis):

niobium	0.5 - 3.0
iron	0.005 - 0.02
oxygen	0.03 - 0.12
carbon	0.001 - 0.02
silicon	0.002 - 0.02
nickel	0.003 - 0.02
zirconium	being the balance,

the niobium content of the β Nb-phase particles being within 79 to 95%.

4. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors, which comprises said constituents taken with the following ratio therebetween (on a weight ratio basis):

niobium	0.5 - 3.0
iron	0.02 - 0.5
oxygen	0.03 - 0.12
carbon	0.001 - 0.02
silicon	0.002 - 0.02
nickel	0.003 - 0.02
zirconium	being the balance,

the iron/niobium ration being 0.05:0.2.

5. (Currently Amended) A zirconium-based alloy for components of the active core of nuclear reactors ~~according to claim 3~~ which comprises said constituents taken with the following ratio therebetween (on a weight ratio basis):

niobium	0.5 - 3.0
iron	0.005 - 0.5
oxygen	0.1 - 0.2
carbon	0.001 - 0.02
silicon	0.002 - 0.1
nickel	0.003 - 0.02
zirconium	being the balance,

with the niobium content of the β-particles in the Nb-phase ranging between 75 and 95%, the α-solid solution being further oxygen-hardened.

6. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors according to claim 2, wherein the size of the particles of intermetallics Zr-Fe-Nb is below 0.3 μm.

7. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors according to claim 4 wherein the size of the particles of intermetallics Zr-Fe-Nb is below 0.3 μm.

8. (Previously presented) A zirconium-based alloy for the components of the active core of nuclear reactors according to claim 5 wherein the size of the particles of intermetallics Zr-Fe-Nb is below 0.3 μm.